

Notice of Allowability

Application No.

09/818,612

Examiner

C. Michelle Tarae

Applicant(s)

KOBAYASHI, HIDEKI

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment submitted on October 25, 2006.
2. ☒ The allowed claim(s) is/are 26,27,30,31,34 and 35.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application
- ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
- ☐ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other _____

ALLOWANCE

1. The following is an Allowance in response to the Amendment submitted on October 25, 2006. Claim 26 is currently amended. Claims 26-27, 30-31, 34-35 are currently pending and allowed below.

Reasons for Allowance

2. Claims 26-27, 30-31, 34-35 are allowed.

3. The following is an examiner's statement of reasons for allowance: None of the prior art of record, taken individually or in any combination, teach, *inter alia*, a method, apparatus and computer readable recording medium containing a computer program with instructions for:

setting a threshold value concerning reuse of parts with respect to cost and environment; reading cost of parts and environment load information from a database;

displaying parts on a map displayed on a display device and divided into a plurality of domains based on the threshold; selecting reuse candidate parts from the displayed parts with reference to the displayed map; calculating a useful life based condition formula expressed as follows:

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$$\min \{la^{-i'}, lr^{-i'}\} \leq la^{-j} - \min \{la^{-i}, lr^{-i}\}$$

where $la^{-i'}$ is a useful life time of product i' , $lr^{-i'}$ is a worth life time of product i' , la^{-j} is a useful life time of part j , and lr^{-j} is a worth life time of part j ,

determining whether the useful life based condition formula is satisfied;

determining possibility of reuse with respect to the reuse candidate parts when the useful life based condition formula is satisfied;

calculating a worth life time based condition formula expressed as follows:

$$tL^{i'} + tP^{i'} + \min \{la^{-i'}, lr^{-i'}\} \leq lr^{-j}$$

where $tL^{i'}$ is a time lag of product i' , and $tP^{i'}$ is a production period of product i' , $la^{-i'}$ is a useful life time of product i' , $lr^{-i'}$ is a worth life time of product i' , and lr^{-j} is a worth life time of part j ,

determining whether the worth life time based condition formula is satisfied; and

determining possibility of reuse with respect to the reuse candidate parts when the worth life time based condition formula is satisfied;

calculating a recovery quantity based condition formula expressed as follows:

$$\min \{la^{-i'}, lr^{-i'}\} < tL^{i'} + \alpha tP^{i'}$$

where $0 \leq \alpha \leq 1$, $la^{-i'}$ is a useful life time of product i' , $lr^{-i'}$ is a worth life time of product i' , $tL^{i'}$ is a time lag of product i' , and $tP^{i'}$ is a production period of product i'

determining whether the recovery quantity based condition formula is satisfied;

[[and]]

determining on a computer possibility of reuse with respect to the reuse candidate parts when the recovery quantity based condition formula is satisfied; and

displaying the determination of possibility of reuse with respect to reuse of candidate parts.

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4. The prior art most closely resembling Applicant's claimed invention are as follows: Jin et al. (U.S. 6,434,438) and Tani et al. (U.S. 6,529,788).

Jin et al. teaches a method and apparatus for evaluating assemblability and reverse assemblability of products. The evaluation computes scores based on various criteria including cost and environment factors. The evaluation uses an ideal score, or threshold. The system includes antennae, vehicles sensors, and signaling means for determining whether or not there is a vehicle with a transponder present. However, Jin et al. does not expressly disclose calculating the useful life of a product using the following formula:

$$\min \{la^{-i}, lr^{-i}\} \leq la^{-j} - \min \{la^{-i}, lr^{-i}\}$$

where la^{-i} is a useful life time of product i , lr^{-i} is a worth life time of product i , la^{-j} is a useful life time of part j , and lr^{-j} is a worth life time of part j ,

determining whether the useful life based condition formula is satisfied;

determining possibility of reuse with respect to the reuse candidate parts when the useful life based condition formula is satisfied;

calculating a worth life time based condition formula expressed as follows:

$$tL^i + tP^i + \min \{la^{-i}, lr^{-i}\} \leq lr^{-j}$$

where tL^i is a time lag of product i , and tP^i is a production period of product i , la^{-i} is a useful life time of product i , lr^{-i} is a worth life time of product i , and lr^{-j} is a worth life time of part j ,

determining whether the worth life time based condition formula is satisfied; and
determining possibility of reuse with respect to the reuse candidate parts when the
worth life time based condition formula is satisfied;

calculating a recovery quantity based condition formula expressed as follows:

$$\min \{la^{i'}, lr^{i'}\} < tL^{i'} + \alpha P^{i'}$$

where $0 \leq \alpha \leq 1$, $la^{i'}$ is a useful life time of product i' , $lr^{i'}$ is a worth life time of
product i' , $tL^{i'}$ is a time lag of product i' , and $tP^{i'}$ is a production period of product i'

determining whether the recovery quantity based condition formula is satisfied;

[[and]]

determining on a computer possibility of reuse with respect to the reuse candidate
parts when the recovery quantity based condition formula is satisfied; and

displaying the determination of possibility of reuse with respect to reuse of candidate
parts.

Tani et al. teaches a system and method for recycling reutilizable products. A database is used to maintain recycle information for products, parts and raw materials where the recycle information includes cost and environmental load. The recycle information is then used to determine reuse candidate parts for a potential new product. However, Tani et al. does not expressly disclose calculating the useful life of a product using the following formula:

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$$\min \{la^{-i}, lr^{-i}\} \leq la^{-j} - \min \{la^{-i}, lr^{-i}\}$$

where la^{-i} is a useful life time of product i' , lr^{-i} is a worth life time of product i' , la^{-j} is a useful life time of part j , and lr^{-j} is a worth life time of part j ,

determining whether the useful life based condition formula is satisfied;

determining possibility of reuse with respect to the reuse candidate parts when the useful life based condition formula is satisfied;

calculating a worth life time based condition formula expressed as follows:

$$tL^{i'} + tP^{i'} + \min \{la^{-i}, lr^{-i}\} \leq lr^{-j}$$

where $tL^{i'}$ is a time lag of product i' , and $tP^{i'}$ is a production period of product i' , la^{-i} is a useful life time of product i' , lr^{-i} is a worth life time of product i' , and lr^{-j} is a worth life time of part j ,

determining whether the worth life time based condition formula is satisfied; and

determining possibility of reuse with respect to the reuse candidate parts when the worth life time based condition formula is satisfied;

calculating a recovery quantity based condition formula expressed as follows:

$$\min \{la^{-i}, lr^{-i}\} < tL^{i'} + \alpha P^{i'}$$

where $0 \leq \alpha \leq 1$, la^{-i} is a useful life time of product i' , lr^{-i} is a worth life time of product i' , $tL^{i'}$ is a time lag of product i' , and $tP^{i'}$ is a production period of product i'

determining whether the recovery quantity based condition formula is satisfied;

[[and]]

determining on a computer possibility of reuse with respect to the reuse candidate parts when the recovery quantity based condition formula is satisfied; and

displaying the determination of possibility of reuse with respect to reuse of candidate parts.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Lennert et al. (EP 948218 A2) discusses reusing parts of a database and/or software code in order to save time, money and time-to-market product schedules.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Michelle Tarae whose telephone number is 571-272-6727. The examiner can normally be reached Monday – Friday from 8:30am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz, can be reached at 571-272-6729.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


C. Michelle Tarae
Primary Patent Examiner
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January 20, 2007